CEIS
center for environmental information and statistics

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US Environmental Protection Agency

Major Findings from the CEIS Review of EPA'S

PERMIT COMPLIANCE SYSTEM (PCS) DATABASE

April 2, 1999

Major Findings from the CEIS Review of EPA's PCS Database

1. INTRODUCTION

The **Permit Compliance System (PCS)** is a computerized database of information on water discharge permits, designed to support the National Pollutant Discharge Elimination System (NPDES). The Clean Water Act requires that all discharges from any point source into waters of the United States must obtain an NPDES permit. By point sources, EPA means discrete conveyances such as pipes or man-made ditches. This does not necessarily mean that a household must obtain a permit to connect to a city sewer. However, facilities that discharge directly to surface waters must obtain a permit. The discharges that pose the most threat to public health and the nation's waters are: human wastes; household food wastes; laundry and bath waters; toxic chemicals and metals. Fecal coliform, oil and grease, pesticides, and metals are types of pollutants that, when discharged into the nation's waters, threaten both the health of humans and life forms in the water. The Clean Water Act requires wastewater dischargers to obtain a permit establishing pollution limits and specifying monitoring and reporting requirements. The NPDES permit program regulates direct discharges from municipal and industrial wastewater treatment facilities. It also regulates industrial point source and concentrated animal feeding operations that discharge into other wastewater collection systems or that discharge directly into receiving waters. Permits are issued for each source (referred to as pipes) and there may be multiple sources for a regulated facility. PCS automates entry, updating, and retrieval of NPDES data. It tracks permit issuance, permit limits, monitoring data, and other data on the regulated facilities. The Office of Enforcement and Compliance Assurance (OECA) of the EPA is responsible for the maintenance and administration of this database.

PCS is one of the major EPA databases that are being reviewed to characterize their overall quality and applicability.

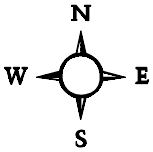
2. SUMMARY ANSWERS TO REVIEW QUESTIONS

2.1. What does the database cover?

The database contains information on location of point sources and related facilities, permit issuance, monitored effluent parameters, monitoring requirements, violations of established limits, compliance schedules, compliance schedule violations, facility inspections, enforcement actions, and evidentiary hearings. The regulated pollutant types include:

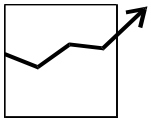
- conventional pollutants
- fecal coliform
- oil and grease
- toxic pollutants
- organics (pesticides, solvents, PCBs, and dioxins)
- metals (lead, silver, mercury, copper, chromium, zinc, nickel, and cadmium)
- non-conventional pollutants
- nitrogen
- phosphorus

More than 200,000 sources from about 67,000 facilities are regulated by NPDES permits nationwide. PCS contains information related to these permitted sources.



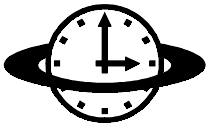
2.2. Can the database be used for spatial analysis?

Yes, since the data can be accessed at the national, State, county, city, and ZIP code levels as well as by latitude and longitude.



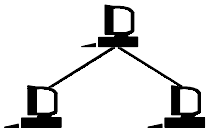
2.3. Can the database be used for temporal analysis?

The data can be used for temporal analysis as there are dates associated with issuance of permits, data collection activities, violations, compliance schedules, violations of compliance schedules, etc.



2.4. How consistent are the variables over space and time?

Variables are consistent over space and time as the permit requirements are the same across the nation. The measurement units for the variables are also consistent because NPDES establishes standard units of measurement.



2.5. Can data from PCS be linked with information from other databases?

PCS includes latitude/longitude information and other location information such as city and State identifiers to facilitate linkage with other databases.

2.6. How accurate are the data in PCS?

States or EPA Regions collect the data and update the database. When errors are discovered, it is relatively easy to update the information. As forms are updated every two weeks, this can happen extremely quickly.

2.7. What are the limitations of PCS?

PCS covers discharges from "point sources" only, and not from "non-point sources." The accuracy of the information varies from State to State depending on procedures. When errors are detected, PCS is updated only if the State chooses to make a correction.

2.8. How can I get information on PCS?

PCS data are accessible through ***EPA's Envirofacts Website***, an account at the EPA National Computer Center, or through a FOIA request.

Accessing PCS Data Online

Data from Online Providers/Internet Site	For More Information
EPA Internet Server- General information about PCS *http://www.epa.gov/enviro/html/pcs/pcs_overview.html*	PCS User Support (202) 564-PCSS (7277) pcs.support@epa.gov
US EPA Internet Server - General information from Office of Enforcement and Compliance Assurance *http://earth2.epa.gov/oeca/datasys/pcssys2.html*	

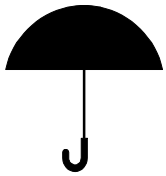
2.9. Is there documentation on PCS?

Documentation on PCS is available from the National Technical Information Service (NTIS)

PCS Data Products

Product	Supplier/Contact/Order Information
Facility Mailing Address Information and Labels	National Technical Information Service (NTIS) 5285 Port Royal Road Springfield, VA 22161 (703) 487-4650 fax: (703) 321-8547
General Facility and Permit Information	NTIS (see above)
Significant Non-Compliance (SNC) List	NTIS (see above)
Enforcement Action Information	NTIS (see above)
Compliance Schedule Information	NTIS (see above)
Facility Inspection Information	NTIS (see above)

3. DETAILED ANSWERS TO REVIEW QUESTIONS



3.1. What does the database cover?

Who Must Report?

The Clean Water Act requires wastewater dischargers to possess a permit establishing pollution limits, and specifying monitoring and reporting requirements. NPDES permits regulate household and industrial wastes that are collected in sewers and treated at municipal wastewater treatment plants. Permits also regulate industrial point sources and concentrated animal feeding operations that discharge into other wastewater collection systems, or that discharge directly into receiving waters. There are three types of pollutants that are regulated by NPDES permits; conventional, toxic, and nonconventional. Conventional pollutants are contained in the sanitary wastes of households, businesses, and industries. Conventional pollutants include fecal coliform, and oil and grease. Toxic pollutants include organics (pesticides, solvents, PCBs, and dioxins) and metals (lead, silver, mercury, copper, chromium, zinc, nickel, and cadmium). Nonconventional pollutants include nutrients such as nitrogen and phosphorus.

NPDES permits distinguish between major and minor facilities. Major facilities have a design or actual flow of one million gallons per day or greater, or a significant impact on water quality (i.e. with a potential for toxic discharge, located close to a drinking water intake, discharging into stressed receiving waters, or requiring advanced treatment). Approximately 10% of all NPDES permits are issued to major facilities. Minor facilities include municipal and non-municipal facilities not meeting the criteria described for major facilities. There may be multiple sources at a regulated facility as permits are issued for each source (referred to as pipes). More than 200,000 sources are regulated by NPDES permits nationwide at about 67,000 facilities.

How are data reported?

Permit information and limits are submitted as permits are issued or modified. A facility with a NPDES permit submits data for the discharge that is regulated by the permit. Since each source (pipe) is controlled, any given facility may have more than one report to file. This report is known as the Discharge Monitoring Report (DMR). The NPDES permit defines how often the DMR must be produced. This could be anywhere from monthly to annually. However, the most common frequency is monthly.

Data Elements

Data types include:

Permit facility data - general descriptive information on each permitted facility.

Permit events data - information tracking the events relating to the issuance of a permit, from initial receipt of the application for a permit through

actual permit issuance, including the date of the permit issuance, the date of permit expiration, and the Public Notice Date.

Pipe-schedule data - detailed information describing each outfall within a permitted facility and the discharge monitoring requirements associated with each.

Parameter limits data - detailed information specifying the monitoring requirements associated with each outfall within a permitted facility.

Measurement violation data - detailed information on reported measurement values for effluent parameters including those that are violations of established limits for the permit, and the actual measurement values.

Compliance schedule data - information related to a schedule of milestone events that a permitted facility must accomplish to upgrade the quality of its effluent discharge when such milestones have been established as a condition of the facility's being granted a permit or complying with an enforcement action.

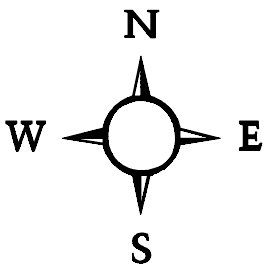
Compliance schedule violation data - information related to violations of the compliance schedule as it applies to a facility, whether from failure to meet a milestone date or failure to submit required report data.

Inspection data - information describing inspections that have been performed at a permitted facility, including the date of the inspection, the type of inspection, and by whom it was performed.

Pretreatment audit data - data related to enforcement actions that have been taken in response to violations of effluent parameter limits, nonreceipt of Discharge Monitoring Reports (DMRs) or compliance schedule milestones.

Evidentiary hearing data - data related to evidentiary hearings held when permittees wish to appeal or negotiate limits or compliance schedule requirements.

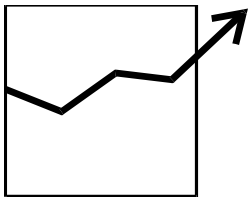
Pretreatment performance summary (PPS) data - information gathered as a part of the Pretreatment Annual Report.



3.2. Can the database be used for spatial analysis?

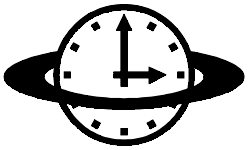
PCS contains information that can be accessed at the national, Regional, State, and city level. The spatial variables in the database include:

- latitude and longitude
- State and county Federal Information Processing Standards (FIPS) codes
- EPA Region
- ZIP code
- Hydrological Unit Codes (HUC) codes for watersheds



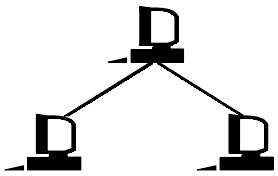
3.3. Can the database be used for temporal analysis?

The data can be used for temporal analysis. There are dates associated with issuance of permits, data collection activities, violations, compliance schedules, violations of compliance schedules, etc. Percentage exceedances of permitted limits appear each quarter by facility. A historical lookup capability allows for examination of a facility's performance over eight quarters. However, PCS does not have a series of frozen datasets that would allow for trends analysis. PCS is mainly a compliance and enforcement database that is used for tracking compliance. There is no series of data summary reports.



3.4. How consistent are the variables over space and time?

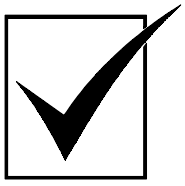
Variables are consistent over space and time as the permit requirements are the same across the nation. The measurement units for the variables are also consistent since standard units of measurement are used.



3.5. Can data from PCS be linked with information from other databases?

Over the area of a stream, people add up the results from PCS, hazardous waste, and air databases. PCS includes the following information to facilitate linkage with other databases.

- Latitude and longitude
- FIPS codes for States and counties
- ZIP codes
- HUC code for watershed
- Stream reach level
- STORET Parameter Code Numbers



3.6. How accurate are the data in PCS?

The discharge monitoring report (DMR) is collected periodically, usually monthly. The report is collected by the State or Federal permitting authority. There is some variance in how rapidly this information is submitted from facilities to States to the PCS, though this usually occurs within a period of 45 days. The accuracy of the data may vary due to quality assurance and quality controls (QA/QC) that vary from State to State. The goal for accuracy of spatial data for major facilities within PCS is to be 95% confident that the actual pipe position is within 25 meters of the reported location. In general, the prescribed QA/QC procedures are in conformance with EPA requirements; however, the QA/QC procedures for laboratory measurements are in the hands of State authorities. When errors are discovered, it is relatively easy to update the information. As PCS is updated twice per week, this can happen extremely quickly.

3.7. What are the limitations of PCS?

PCS primarily covers discharges from "point sources" only. Limited information is available from "non-point sources." Further, only limited information is available on "minor" (lower volume) permitted sources. The accuracy of the information varies from State to State depending on procedures. When errors are detected, PCS is updated only if the State chooses to make a correction. Finally, one minor limitation exists regarding the availability of current information in PCS. While the discharge monitoring report (DMR) is collected monthly, there is some variance in how rapidly this information is submitted by States to the PCS. Generally, these data are delivered within 45 days since a nonreceipt violation occurs after this time period.

3.8. How can I get information on PCS?

The PCS database resides on a mainframe computer at the National Computer Center.

General Information on PCS may also be obtained from:

PCS User Support
EPA
401 M Street SW
Washington, DC 20460
Phone: (202) 564-PCSS (7277)
Fax: (202) 501-0411
email: mundell.michael@epamail.epa.gov

Electronic Media

PCS resides on the EPA mainframe and can be accessed by obtaining an account through the NTIS. PCS data can also be obtained through a Freedom of Information Act (FOIA) request.

Online services

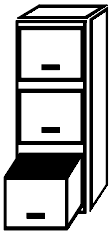
EPA offers information from the PCS database at the EPA website. See:

Envirofacts which provides general information including a subset of data publicly available for query.

http://www.epa.gov/enviro/html/pcs/pcs_overview.html

The Office of Enforcement and Compliance Assurance provides general information and PCS data products.

http://earth2.epa.gov/oeca/datasys/pcssys2.html



3.9. Is there documentation on PCS?

Statutory Authority

- US Code Title 33 Navigation and Navigable Water, Chapter 26 Water Pollution Prevention and Control Clean Water Act of 1977.

Data Products

The following sets of information are currently available online through the National Technical Information Service (NTIS) or through a Freedom of Information Act (FOIA) request.

- Facility Mailing Address Information Labels
- General Facility and Permit Information
- Significant Noncompliance (SNC) List
- Enforcement Action Information
- Compliance Schedule Information
- Facility Inspection Information